

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. A computer system configured for providing themes for graphical components, the computer system having memory, the computer system comprising:
 - a selecting module receiving a user request for a selected theme having an associated non-binary theme file with theme properties;
 - a converting module converting the associated non-binary theme file into a binary theme file to facilitate retrieval of theme properties; and
 - a loading module loading the binary theme file into the memory so that themes can be applied to the graphical components.
2. The system of claim 1 further comprising a plurality of processes, each process accessing the binary theme file.
3. The system of claim 1, further comprising:
 - an update handle module receiving a theme handle request from a graphical component and distributing a theme handle if the graphical component is found in the binary theme file so that the graphical component can use the theme properties of the binary theme file; and
 - a close handle module closing the theme handle and decrementing a reference count on the shared memory in response to process termination so that a theme handle can be closed when a binary theme file is loaded.
4. The system of claim 1, further comprising:
 - a notification module notifying the processes that a new theme file has been loaded.
5. The system of claim 1, wherein the converting module comprises:
 - a schema file parsing module parsing a schema file containing a list of all themeable graphical components and properties;

a theme specification file parsing module parsing a theme specification file specifying graphical component sizes and colors; and

a building module building a binary theme file containing the graphical components, properties, sizes, and colors in a binary format.

6. The system of claim 5 wherein the binary format is hierarchical, there being a data section for each hierarchy, the sections being a global section, a class section, a parts section, and a states section.

7. The system of claim 6 wherein the converting module further builds a packed data object section having all the theme properties for a class, part, and state.

8. A method for creating a visual style for a set of graphical components for use on a computer system having a graphical operating environment and processes with shared memory, the method comprising:

selecting graphical components from a schema file of graphical components, that are desired to have a defined visual style, each component being defined by a unique class name;

assigning properties to the selected components according to the defined visual style so that each selected component has assigned properties;

grouping the pairs of selected graphical components and corresponding assigned properties for the defined visual style together in a class data file;

converting the class data file into a binary theme file having a class data section having class names and assigned properties in a binary format; and

loading the binary theme file into the shared memory so that a visual style can be used to render graphical components.

9. The method of claim 8, wherein the graphical components defined within the schema file of graphical components have one or more part names associated with at least one class name, and the converting act further comprises creating a part property data section in the binary theme file, the part property data section having the one or more part names and the assigned properties.

10. The method of claim 8, wherein the graphical components defined within the schema file of graphical components have one or more state names associated with at least one defined part name, and the converting act further comprises creating a state property data section in the binary theme file, the state property data section having the one or more state names and the assigned properties.

11. The method of claim 8 further comprising:
identifying some properties as global properties; and
creating in the binary theme file a global properties section having the global properties to be used when a class name, part name, or state name cannot be found in the binary theme file.

12. The method of claim 11, wherein a list of available properties is within the first schema file of graphical components, that may be selected in the selecting step for each graphical component, part and state.

13. The method of claim 12, wherein the act of converting comprises:
identifying a derived property for a graphical component;
associating a unique numeric identifier with the derived property to create a derived property identifier;
identifying one or more primitive properties for each derived property, wherein each primitive property has associated property data having a length;
associating a unique numeric identifier with each primitive property, to create a primitive property identifier;
calculating the lengths of each of the associated property data;
selecting a derived property identifier;
writing a binary tagged data module to a tagged data memory offset in the class data section of the binary file wherein the binary tagged data module contains the selected derived property identifier, the one or more primitive property identifiers, the associated property values, and each of the property values' lengths; and
writing an associated parent part offset after each binary tagged data module, the associated parent part offset being a memory offset into the global class section.

14. The method of claim 13 wherein the act of converting further comprises:
 - obtaining the memory offset of a binary tagged data module for a state; and
 - writing the memory offset to a second memory offset in a state jump table in the binary theme file.
15. The method of claim 14 wherein the act of converting further comprises:
 - writing the second memory offset to a third memory offset in a part jump table in the binary theme file.
16. (Canceled)
17. A method of retrieving graphical component theme property data on a computer system having a graphical operating system and processes, the method comprising:
 - receiving a rendering request from a graphical component, the request having a theme handle and a component state;
 - accessing a binary theme file to retrieve theme property data for the requesting process; and
 - retrieving graphical component theme property data from the binary theme file.
18. The method of claim 17 wherein the act of accessing a binary theme file comprises:
 - retrieving an offset into a class data section of the binary theme file, the class data section having theme property data for a class in binary format;
 - performing a binary search for class property data at the offset;
 - determining if class property data exists at the offset;
 - jumping to a global data section of the binary theme file having global theme property data, if no class property data is found; and
 - retrieving global theme property data from the global data section.
19. The method of claim 17 wherein the act of accessing a binary theme file comprises:
 - retrieving an offset into a part jump table section of the binary theme file, the part jump table section having theme property data for a part in binary format;
 - performing a binary search for part property data at the offset;

determining if part property data exists at the offset;
jumping to a class data section of the binary theme file having theme property data for a class, if no part property data is found; and
retrieving class theme property data from the class data section.

20. The method of claim 17 wherein the step of accessing a binary theme file comprises:
retrieving a memory offset into a part jump table section of the binary theme file;
retrieving from the part jump table section a second memory offset into a state jump table section;
jumping to the second memory offset of the binary theme file having state theme property data; and
retrieving state theme property data from the state theme property data section.

21. A computer program product readable by a computing system and encoding a computer program of instructions for executing a computer process for creating a visual style for a set of graphical components for use on a computer system having a graphical operating environment and processes with shared memory, said computer process comprising:

selecting graphical components from a schema file of graphical components, that are desired to have a defined visual style, each component being defined by a unique class name;

assigning properties to the selected components according to the defined visual style so that each selected component has assigned properties;

grouping the pairs of selected graphical components and corresponding assigned properties for the defined visual style together in a class data file;

converting the class data file into a binary theme file having a class data section having class names and assigned properties in a binary format; and

loading the binary theme file into the shared memory so that a visual style can be used to render graphical components.

22. The computer program product of claim 21 wherein the graphical components defined within the schema file of graphical components have one or more part names associated with at least one class name, and the converting act further comprises creating a part property data

section in the binary theme file, the part property data section having the one or more part names and the assigned properties.

23. The computer program product of claim 22 wherein the graphical components defined within the schema file of graphical components have one or more state names associated with at least one defined part name, and the converting act further comprises creating a state property data section in the binary theme file, the state property data section having the one or more state names and the assigned properties.

24. The computer program product of claim 21 further comprising:
identifying some properties as global properties; and
creating in the binary theme file a global class section having the global properties to be used when a class name, part name, or state name cannot be found in the binary theme file.

25. The computer program product of claim 24, wherein a list of available properties is within the first schema file of graphical components, that may be selected in the selecting step for each graphical component, part and state.

26. The computer program product of claim 22, wherein the act of converting comprises:
identifying a derived property for a graphical component;
associating a unique numeric identifier with the derived property to create a derived property identifier;
identifying one or more primitive properties for each derived property, wherein each primitive property has associated property data having a length;
associating a unique numeric identifier with each primitive property, to create a primitive property identifier;
calculating the lengths of each of the associated property data;
selecting a derived property identifier;
writing a binary tagged data module to a tagged data memory offset in the class data section of the binary file wherein the binary tagged data module contains the

selected derived property identifier, the one or more primitive property identifiers, the associated property values, and each of the property values' lengths; and

writing an associated parent part offset after each binary tagged data module, the associated parent part offset being a memory offset into the global class section.

27. The computer program product of claim 26, wherein the act of converting further comprises:

obtaining the memory offset of a binary tagged data module for a state; and

writing the memory offset to a second memory offset in a state jump table in the binary theme file.

28. The computer program product of claim 27 wherein the act of converting further comprises writing the second memory offset to a third memory offset in a part jump table in the binary theme file.

29. (Canceled)

30. A computer program product readable by a computing system and encoding a computer program of instructions for executing a computer process for retrieving graphical component theme property data on a computer system having a graphical operating system and processes, the method comprising:

receiving a rendering request from a graphical component, the request having a theme handle and a component state;

accessing a binary theme file to retrieve theme property data for the requesting process; and

retrieving graphical component theme property data from the binary theme file.

31. The computer program product of claim 30 wherein the act of accessing a binary theme file comprises:

retrieving an offset into a class data section of the binary theme file, the class data section having theme property data for a class in binary format;

performing a binary search for class property data at the offset;

determining if class property data exists at the offset;
jumping to a global data section of the binary theme file having global theme property data, if no class property data is found; and
retrieving global theme property data from the global data section.

32. The computer program product of claim 30 wherein the act of accessing a binary theme file comprises:

retrieving an offset into a part jump table section of the binary theme file, the part jump table section having theme property data for a part in binary format;
performing a binary search for part property data at the offset;
determining if part property data exists at the offset;
jumping to a class data section of the binary theme file having theme property data for a class, if no part property data is found; and
retrieving class theme property data from the class data section.

33. The computer program product of claim 30 wherein the act of accessing a binary theme file comprises:

retrieving a memory offset into a part jump table section of the binary theme file;
retrieving from the part jump table section a second memory offset into a state jump table section;
jumping to the second memory offset of the binary theme file having state theme property data; and
retrieving state theme property data from the state theme property data section.

34. (Canceled)

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43. (Canceled)
44. (Canceled)
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